

AMENDMENTS TO THE CLAIMS

Please amend claims 1, 6, 7, 11, 12, 17, 25, 30, 33, and 39. Applicants hereby submit a version with markings to show changes made:

1. (currently amended) An *in vivo* process for delivering polynucleotides to skeletal muscle cells in a mammal, comprising:
  - a) inserting an injector into a limb blood vessel of in the mammal;
  - b) applying a device external to ~~mammalian~~ the mammal's skin ~~for occluding to~~ occlude blood vessels in the limb; and,
  - c) injecting a solution containing the polynucleotides into the lumen of the vessel distal to the occlusion thereby delivering the polynucleotides to skeletal muscle cells in the limb.
2. (original) The process of claim 1 wherein the polynucleotide consists of naked DNA.
3. (original) The process of claim 1 wherein the polynucleotide is selected from the group consisting of a viral vector and a non-viral vector.
4. (withdrawn)
5. (canceled)
6. (previously amended) The process of claim 1 wherein the muscle cell consists of a leg muscle cell.
7. (previously amended) The process of claim 1 wherein the muscle cell consists of an arm muscle cell.
8. (original) The process of claim 7 wherein the arm muscle cell consists of an anterior muscle cell.
9. (original) The process of claim 8 wherein the anterior muscle cell consists of an anterior superficial muscle cell.
10. (canceled)
11. (previously amended) The process of claim 9 wherein the muscle cell is selected from the group consisting of palmaris longus, pronator teres, flexor carpi radialis, flexor carpi ulnaris, and flexor digitorum superficialis.
12. (previously amended) The process of claim 8 wherein the anterior muscle cell is selected from the group consisting of flexor digitorum profundus, and pronator quadratus.

13. (original) The process of claim 7 wherein the arm muscle cell consists of a posterior muscle cell.
14. (original) The process of claim 13 wherein the posterior muscle cell consists of a posterior superficial muscle cell.
15. (canceled)
16. (currently amended) The process of claim 14 wherein the muscle cell is selected from the group consisting of brachioradialis, extensor carpi radialis longus, extensor carpi, radialis brevis, extensor digitorum, anconeus, extensor and carpi ulnaris, ~~and extensor pollicis longus~~.
17. (currently amended) The process of claim 13 wherein the posterior muscle cell is selected from the group consisting of supinator, extensor pollicis longus, abductor pollicis longus, extensor digiti secund et teriti, and extensor digiti quart et minimi.
18. (original) The process of claim 7 wherein the arm muscle cell consists of a hand muscle cell.
19. (original) The process of claim 18 wherein the hand muscle cell consists of a thumb muscle cell.
20. (original) The process of claim 18 wherein the hand muscle cell consists of an interosseus cell.
21. (original) The process of claim 6 wherein the leg muscle cell consists of a posterior muscle cell.
22. (original) The process of claim 21 wherein the posterior muscle cell consists of a superficial cell.
23. (canceled)
24. (original) The process of claim 22 wherein the superficial cell is selected from the group consisting of gastrocnemius and soleus.
25. (previously amended) The process of claim 21 wherein the posterior muscle cell is selected from the group consisting of popliteus, flexor digitorum longus, flexor hallucis longus, and tibialis posterior.
26. (original) The process of claim 6 wherein the leg muscle cell consists of a anterior muscle cell.
27. (canceled)
28. (original) The process of claim 6 wherein the leg muscle cell consists of a foot muscle cell.

29. (original) The process of claim 26 wherein the anterior muscle cell is selected from the group consisting of tibialis anterior, extensor hallucis longus, extensor digitorum longus, and abductor hallucis longus.
30. (previously amended) The process of claim 6 wherein the leg muscle cell is selected from the group consisting of peroneus longus and peroneus brevis.
31. (original) The process of claim 28 wherein the foot muscle cell is selected from the group consisting of extensor digitorum brevis and extensor hallucis brevis.
32. (canceled)
33. (previously amended) The process of claim 1 wherein occluding blood vessels consists of compressing mammalian skin.
34. (original) The process of claim 33 wherein compressing mammalian skin consists of applying a tourniquet over the skin.
35. (original) The process of claim 33 wherein compressing mammalian skin consists of applying a cuff over the skin.
36. (original) The process of claim 35 wherein compressing mammalian skin consists of applying a sphygmomanometer cuff over the skin.
37. (canceled)
38. (canceled)
39. (currently amended) An *in vivo* process for delivering polynucleotides to skeletal muscle cells in a mammal, comprising:
  - a) inserting an injector into a limb blood vessel of the mammal and applying pressure to the blood vessel wherein the pressure is applied by a device external to mammalian skin;
  - b) injecting a solution containing the polynucleotides into the lumen of the vessel thereby delivering the polynucleotides to skeletal muscle cells in the limb; and,
  - c) maintaining function of the limb wherein function is not affected by the delivery process inserting the injector, applying pressure to the vessel, and injecting the solution.
40. (withdrawn)